

REMARKS

In this Response, claims 3-14 have been cancelled, without prejudice; and claims 22-23 have been added. No new matter has been added.

Claims 15-23 are pending.

Claim Rejections – USC 103

In the Office Action, claims 3-20 were rejected under 35 USC 103(a) over Gerlach (US Pat. No. 4,810,880) (hereinafter “Gerlach”), Tsuno (US Pub. No. 2001/0052744) (hereinafter “Tsuno”), and Shinada et al. (US Pat. No. 6,583,413) (hereinafter “Shinada”) in various combinations. Claims 3-14 have been cancelled rendering their rejections moot.

Claim 15 has been amended and currently recites a method for analyzing a surface of a sample comprising:

- producing an electron beam with a field emission source to excite a surface of the sample so that electrons are emitted therefrom;
- filtering the electron beam using a monochromator energy filter;
- receiving on an inlet of an energy analyzer the electrons emitted from the excited surface of the sample, with the emitted electrons producing a spectrum representative of a distribution of kinetic energies of the emitted electrons over the inlet;
- detecting the emitted electrons traveling through the energy analyzer for reproducing the distribution of the kinetic energies of the emitted electrons;
- identifying a characteristic kinetic energy associated with a peak of the reproduced distribution of the kinetic energies of the emitted electrons; and
- determining a chemical bond energy of the surface of the sample based at least in part on the identified characteristic kinetic energy.

As can be seen, claim 15 clearly recites “identifying a characteristic kinetic energy associated with a peak of the reproduced distribution of the kinetic energies of the emitted electrons; and determining a chemical bond energy of the surface of the sample based at least in part on the identified characteristic kinetic energy.” The Applicant’s disclosure describes how the identification of the characteristic kinetic energy of electrons emitted from a surface can be used to determine a chemical bond

energy of the surface of the sample. This identification and determining may provide, as described in paragraph [0015] of the Applicant's specification, "a spectroscopic system that yields information on the chemical state of a sample but at the same time allows an investigation to be conducted on a microspot."

The cited references, on the other hand, fail to teach or suggest the identification of the characteristic kinetic energy or the determining of the chemical bond energy in the manner recited by claim 15. For example, while Gerlach appears to suggest the use of Auger electrons for chemical mapping, Gerlach does so by the use of direct imaging. Even if the system of Gerlach was able to overcome the traditional shortcomings associated with chemical mapping using Auger electrons, which are related to the "relatively weak chemical shift to which the Auger electron is subjected" as described in paragraph [0005] of Applicant's specification, the teachings of Gerlach still fail to make obvious the identification of the characteristic kinetic energy and determining the chemical bond energy based at least in part on the characteristic kinetic energy. The remaining references also fail to teach or make obvious these elements.

For at least these reasons, claim 15 is patentable over the cited references.

Claims 16-21 depend from claim 15 and are patentable over the cited references for at least the reasons given above.

Accordingly, the Applicant respectfully request that the Examiner withdraw these rejections of these claims.

New Claims

The Applicants have taken this opportunity to present claims 22-24. These claims depend from claim 15 and are patentable over the cited references for at least the reasons given above. Accordingly, the Applicant respectfully requests allowance of these claims.

Conclusion

In light of the above remarks, the Applicants respectfully submit that this application is now in condition for allowance. Early issuance of Notice of Allowance is respectfully requested. In the event that a Notice of Allowance cannot be promptly issued, the Applicants request that the Examiner contact the Applicants' undersigned representative at 503-796-2972 to discuss any unresolved issues.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,
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